

CLASSIFICATION:

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EXHIBIT R-2, RDT&E Budget Item Justification							DATE: <b>February 2000</b>			
APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY/4</b>					R-1 ITEM NOMENCLATURE 0603564N - Ship Preliminary Design and Feasibility Studies					
COST (\$ in Millions)		FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Total PE Cost		6.706	11.945	46.896	4.944	0.000	0.000	0.000	Continuing	Continuing
Ship Feasibility Studies/S0408		0.000	11.945	46.896	4.944	0.000	0.000	0.000	Continuing	Continuing
ADC(X) Auxiliary Cargo Ship Development/S2609		5.738	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.738
SSBN To SSGN Analysis/S2610		0.968	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.968
Quantity of RDT&E Articles		N/A	N/A	N/A	N/A	N/A	N/A	N/A		
A. Mission Description and Budget Item Justification (U) The primary objective of Ship Preliminary Design and Feasibility Studies is to design more capable warships at reduced cost, with reduced manning and increased producibility, utilizing the latest technologies and ship/system design methodologies. Modern day ship design and acquisition processes do not separate Preliminary and Contract Design. These are seamless design actions conducted between MS I and II. Therefore after FY 1996, design activities formerly conducted in this Program Element (P.E.) as Preliminary Design were combined under P.E. 0604567N, Ship Contract Design/Live Fire Test and Evaluation. This program directly supports the Navy Shipbuilding Plan by performing ship Feasibility Studies.  (U) Project S0408 – Ship Development (Advanced), supports post Milestone 0 ship Feasibility Studies that provide the technical definition and initial cost estimates for various ship alternatives being considered in the Analysis of Alternatives (AOA). This project develops the primary supporting documentation for Milestone I decisions. This project also develops and upgrades the engineering tools, especially ship synthesis models, used to support AOA studies and the other engineering efforts accomplished during Phase 0, between Milestones 0 and I.  (U) Project S2609 – This program provides Auxiliary Dry Cargo (ADC(X)) Feasibility Studies and Analysis of Alternatives (AOA) support.  (U) Project S2610 – This program is funded to analyze the feasibility of converting some Trident SSBNs to the SSGN configuration.  Note: In accordance with 15 USC 638, \$.125M in FY 2000 is reserved for the Small Business Innovation Research (SBIR) assessment.										

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APPROPRIATION/BUDGET ACTIVITY <b>RESEARCH DEVELOPMENT TEST &amp; EVALUATION, NAVY/4</b>		R-1 ITEM NOMENCLATURE 0603564N - Ship Preliminary Design and Feasibility Studies																									
<p>B. Program Change Summary</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 15%; text-align: center;">FY 1999</th> <th style="width: 15%; text-align: center;">FY 2000</th> <th style="width: 20%; text-align: center;">FY 2001</th> </tr> </thead> <tbody> <tr> <td>FY 2000 President's Budget:</td> <td style="text-align: center;">2.023</td> <td style="text-align: center;">12.012</td> <td style="text-align: center;">17.000</td> </tr> <tr> <td>Appropriated Value:</td> <td style="text-align: center;">2.023</td> <td style="text-align: center;">12.012</td> <td></td> </tr> <tr> <td>Adjustment to FY 1999/2000 Appropriated Value/</td> <td></td> <td></td> <td></td> </tr> <tr> <td>FY 2000 President's Budget:</td> <td style="text-align: center;">4.683</td> <td style="text-align: center;">-0.067</td> <td style="text-align: center;">29.896</td> </tr> <tr> <td>FY 2001 PRES Budget Submit:</td> <td style="text-align: center;">6.706</td> <td style="text-align: center;">11.945</td> <td style="text-align: center;">46.896</td> </tr> </tbody> </table> <p style="margin-top: 20px;">FY 1999 Changes consist of : +\$5.928M FY 99 Congl Transfer: ADC(X), +\$1.000M FY 99 Congl Add: SSGN Study, -\$1.962M March 1999 DD 1002 Update (BTR to S2196), -\$0.220M FY-99 SBIR/STTR Transfer, -\$0.063M minor pricing adjustments.</p> <p>FY 2000 Changes consist of: -\$0.067M Across-the Board Reduction.</p> <p>FY 2001 Changes consist of: +\$15.200M JCC(X)., +\$16.000M LHA Replacement AOA, -\$1.0M to finance higher priority requirements ,-\$0.304M for NWCF rate and other pricing adjustments.</p> <p>Schedule: Not applicable.</p> <p>Technical: Not applicable.</p>					FY 1999	FY 2000	FY 2001	FY 2000 President's Budget:	2.023	12.012	17.000	Appropriated Value:	2.023	12.012		Adjustment to FY 1999/2000 Appropriated Value/				FY 2000 President's Budget:	4.683	-0.067	29.896	FY 2001 PRES Budget Submit:	6.706	11.945	46.896
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**Exhibit R-2, RDT&E Budget Item Justification**  
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EXHIBIT R-2a, RDT&E Project Justification							DATE:				
							February 2000				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NAME AND NUMBER			PROJECT NAME AND NUMBER						
RDT&E,N/4		Ship Prelim Design & Feasibility Studies/0603564N			Ship Development (ADV)/S0408						
COST (\$ in Millions)			FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	Cost to Complete	Total Cost
Project Cost (S0408)			0.000	11.945	46.896	4.994	0.000	0.000	0.000	Continuing	Continuing
RDT&E Articles Qty											
A. (U) Mission Description and Budget Item Justification. Ship concepts, identified in PE 0603563N (Ship Concept Advanced Design) are transitioned to and further developed by this project after an approved Milestone 0 (MS 0) decision. This project performs the Ship Feasibility Studies required after MS 0 to address a specific Mission Needs Statement (MNS) and supports the Analysis of Alternatives(AOA) for new surface ships in the Navy Shipbuilding Plan; performs impact studies of warfare, hull, mechanical and electrical subsystems on advanced ship designs; enhances ship/ship system design methodologies that support phase 0; develops and upgrades the engineering tools, especially ship synthesis models, used to support AOA studies and other engineering efforts accomplished during phase 0; evaluates advanced and alternative technologies and develops total ship concepts with these technologies to assess their suitability; develops the initial documentation and design methodology required by the government for the design of surface ships in the Shipbuilding Program in accordance with the requirements of the DoD 5000 directives/instructions; supports the development of the Operational Requirements Document (ORD) and other documentation required at Milestone I; and accomplishes other efforts for future ship acquisitions in support of a Milestone I decision. Completion of this phase allows review and approval, at Milestone I, to transfer a ship program to the Contract Design Program Element 0604567N. Ship Feasibility Study products include a description of the alternative ships' principal characteristics and mission critical subsystems, weight estimates, general arrangement sketches, technical risk assessments, and Class F cost estimates. The objective is to provide the decision makers with feasible, affordable alternatives.											
(U) PROGRAM ACCOMPLISHMENTS AND PLANS:											
1. (U) FY 1999 ACCOMPLISHMENTS:											
(U) (\$ 0.000) No funding.											
2. (U) FY 2000 PLAN:											
(U) (\$11.945) Pre-Milestone I AOA, ORD development and supporting feasibility studies for a new Joint Command and Control (JCC(X)) ships.											
3. (U) FY 2001 PLAN:											
(U) (\$30.896) Continue and complete JCC(X) Feasibility Studies, AOA, and ORD development. Prepare documentation required for a Milestone I decision. Develop and upgrade engineering tools, especially ship synthesis models, that support this AOA study and the other engineering efforts accomplished during Phase 0, between Milestones 0 and I.											
(U) (\$16.000) Begin pre-Milestone I AOA, feasibility studies, and ORD Development for LHA Replacement ships. Develop and upgrade engineering tools, especially ship synthesis models, that support this AOA study and the other engineering efforts accomplished during Phase 0, between Milestones 0 and I.											

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**Exhibit R-2a, RDT&E Project Justification**

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EXHIBIT R-2a, RDT&E Project Justification		DATE: <b>February 2000</b>																									
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E,N/4</b>	PROGRAM ELEMENT NAME AND NUMBER Ship Prelim Design & Feasibility Studies/0603564N	PROJECT NAME AND NUMBER Ship Development (ADV)/S0408																									
<p>B. (U) Other Program Funding Summary: Not applicable.</p> <p>(U) Related RDT&amp;E:     (U) PE 0603563N (Ship Concept Advanced Design)     (U) PE 0604567N (Ship Contract Design/Live Fire T&amp;E)     (U) PE 0604300N (SC21 Total Ship Systems Engineering)</p> <p>C. (U) Acquisition Strategy: Not applicable. This is a non acquisition program that supports pre-Milestone I efforts for potential ship acquisition programs.</p> <p>D. (U) Schedule Profile</p> <table><thead><tr><th></th><th>FY 1999</th><th>FY 2000</th><th>FY 2001</th><th>FY2002</th></tr></thead><tbody><tr><td>Program Milestones</td><td></td><td>2Q LHA Replacement MS 0</td><td>4Q JCC(X) MS I</td><td>2Q LHA Replacement MS I</td></tr><tr><td>Engineering Milestones</td><td colspan="4">TBD – Milestone schedule is established at MS I.</td></tr><tr><td>T&amp;E Milestones</td><td colspan="4">See individual ship acquisition program documentation.</td></tr><tr><td>Contract Milestones</td><td colspan="4">See individual ship acquisition program documentation.</td></tr></tbody></table>				FY 1999	FY 2000	FY 2001	FY2002	Program Milestones		2Q LHA Replacement MS 0	4Q JCC(X) MS I	2Q LHA Replacement MS I	Engineering Milestones	TBD – Milestone schedule is established at MS I.				T&E Milestones	See individual ship acquisition program documentation.				Contract Milestones	See individual ship acquisition program documentation.			
	FY 1999	FY 2000	FY 2001	FY2002																							
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Exhibit R-3 Cost Analysis (page 1)								DATE: <b>February 2000</b>				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NAME AND NUMBER						
<b>RDT&amp;E,N4</b>			Ship Prelim Design & Feasibility Studies/0603564N			Ship Development (ADV)/S0408						
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Primary Hardware Development											0.000	
Ancillary Hardware Development											0.000	
Systems Engineering	WR	NSWC Dahlgren, VA	8.842	0.000		0.000		2.000	Various	Cont.	Cont.	N/A
	WR	NSWC Carderock, MD	0.000	0.000		1.000	Various	7.000	Various	Cont.	Cont.	N/A
	WR	NSWC Port Hueneme	0.000	0.000		0.000		1.000	Various	Cont.	Cont.	N/A
	PD	SPAWAR	0.000	0.000		5.882	Various	9.737	Various	Cont.	Cont.	N/A
	PD	NAVAIR	0.000	0.000		0.000		2.000	Various	Cont.	Cont.	N/A
	WR/Reqn	Other Government	10.558	0.000		0.000		0.000		Cont.	Cont.	N/A
	C/CPFF	Nichols Adv Marine, VA	0.000	0.000		3.500	Various	4.000	Various	Cont.	Cont.	N/A
	Comp	J.J. McMullen, VA	5.857	0.000		1.512	Various	0.000		Cont.	Cont.	N/A
	Various	Other Contractor	16.769	0.000		0.000		21.084	Various	Cont.	Cont.	N/A
Licenses											0.000	
Tooling											0.000	
GFE											0.000	
Award Fees											0.000	
Subtotal Product Development			42.026	0.000		11.894		46.821		Cont.	Cont.	N/A
Remarks:												
Development Support Equipment											0.000	
Software Development											0.000	
Training Development											0.000	
Integrated Logistics Support											0.000	
Configuration Management											0.000	
Technical Data											0.000	
GFE											0.000	
Subtotal Support			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												

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**Exhibit R-3, Project Cost Analysis**  
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Exhibit R-3 Cost Analysis (page 2)										DATE: <b>February 2000</b>		
APPROPRIATION/BUDGET ACTIVITY <b>RDT&amp;E,N4</b>				PROGRAM ELEMENT Ship Prelim Design & Feasibility Studies/0603564N			PROJECT NAME AND NUMBER Ship Development (ADV)/S0408					
Cost Categories (Tailor to WBS, or System/Item Requirements)	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 99 Cost	FY 99 Award Date	FY 00 Cost	FY 00 Award Date	FY 01 Cost	FY 01 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation											0.000	
Operational Test & Evaluation											0.000	
Tooling											0.000	
GFE											0.000	
Subtotal T&E			0.000	0.000		0.000		0.000		0.000	0.000	
Remarks:												
Contractor Engineering Support											0.000	
Government Engineering Support											0.000	
Program Management Support											0.000	
Travel				0.000		0.051		0.075		Cont.	Cont.	N/A
Labor (Research Personnel)											0.000	
Overhead											0.000	
Subtotal Management			0.000	0.000		0.051		0.075		Cont.	Cont.	N/A
Remarks:												
Total Cost			42.026	0.000		11.945		46.896		Cont.	Cont.	N/A
Remarks:												

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**Exhibit R-3, Project Cost Analysis**  
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